

What is claimed is:

1. A system for collecting data in a room, said system comprising:
a plurality of sensor devices positioned at various locations in the room, said sensor devices comprising:

5 a sensor configured to detect at least one condition; and
 a controller configured to control the sensor;
 at least one data storage device configured to store the detected at least one condition;
 an interface mechanism for enabling communication of the stored at least one condition;
 and
10 a data collector for interfacing with the interface mechanism to receive the stored at least one condition from the at least one data storage device.

2. The system according to claim 1, wherein the plurality of sensor devices are wired to an interface apparatus comprising the interface mechanism.

15 3. The system according to claim 1, wherein the plurality of sensor devices are positioned at various heights on a pole.

20 4. The system according to claim 3, wherein the pole is positioned on one or more wheels.

5. The system according to claim 3, wherein the data collector is configured on a robotic device having a manipulator configured to grasp and move the pole.

25 6. The system according to claim 1, wherein the data collector comprises at least one of a hand-held device and a device configured for use by a robotic device.

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7. The system according to claim 1, wherein the room comprises one or more racks, wherein the plurality of sensor devices are positioned at various heights along at least one of the one or more racks, and wherein the sensors of the plurality of sensor devices are configured to detect at least one condition of one or both of airflow into and out of the at least one rack at the 5 various heights.

8. The system according to claim 1, wherein at least one of the plurality of sensor devices comprises the at least one data storage device.

10 9. The system according to claim 8, wherein at least one of the plurality of sensor devices comprises the interface mechanism.

10. The system according to claim 1, further comprising:
an interface apparatus configured to receive the detected at least one condition from one
15 or more of the plurality of sensor devices; and
wherein the interface apparatus comprises the interface mechanism.

11. The system according to claim 10, wherein the interface apparatus comprises the
at least one storage device and wherein the at least one storage device is configured to store the at
20 least one condition detected by the one or more sensor devices.

12. The system according to claim 1, wherein the data collector is positioned on a
movable platform on a robotic device, and wherein the data collector is configured to interface a
plurality of interface mechanisms located at various distances and heights with respect to the
25 robotic device.

13. The system according to claim 12, wherein the robotic device is configured to
control one or more cooling system components based upon the received at least one condition.

14. The system according to claim 12, wherein the plurality of sensor devices are configured to receive instructions from the robotic device through the interface mechanism.

5 15. The system according to claim 1, further comprising:
a computer system configured to control one or more cooling system components;
at least one upload location for enabling communication between the data collector and the computer system

10 16. The system according to claim 15, wherein the data collector is configured on a robotic device, said robotic device being configured to travel to the at least one upload location to enable communications between the data collector and the computer system.

15 17. The system according to claim 16, wherein the robotic device is configured to receive instructions from the computer system through an interface with the upload location.

18. The system according to claim 17, wherein the robotic device is configured to store the at least one condition received from the at least one data storage device, upload the stored at least one condition to the computer system through an interface with the upload location, and wherein the computer system is configured to manipulate the one or more cooling 20 system components in response to the uploaded at least one condition.

19. A method for collecting data in a room, said method comprising:
positioning a plurality of sensor devices in various locations of the room;
detecting at least one condition with the plurality of sensor devices;
25 storing the detected at least one condition in a data storage device;
interfacing the data storage device with a data collector; and
transferring the stored at least one condition to the data collector.

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20. The method according to claim 19, wherein the step of positioning the plurality of sensor devices comprises implementing a robotic device to position the plurality of sensor devices in various locations of the room.

5 21. The method according to claim 20, wherein the step of positioning the plurality of sensor devices comprises positioning the plurality of sensor devices on a pole and moving the pole a location in the room with the robotic device.

10 22. The method according to claim 19, wherein the room comprises at least one rack housing electronic equipment, and wherein the step of positioning the plurality of sensor devices comprises positioning the positioning sensor devices to detect the at least one condition at various heights of the at least one rack.

15 23. The method according to claim 19, further comprising:
programming the plurality of sensor devices to detect the at least one condition at predetermined periods of time.

20 24. The method according to claim 19, wherein the data collector is positioned on a robotic device, and wherein the step of programming the plurality of sensor devices comprises programming the plurality of sensor devices through an interface between the plurality of sensor devices and the data collector.

25 25. The method according to claim 19, further comprising:
tracking the locations of the plurality of sensor devices; and
storing the locations of the plurality of sensor devices.

26. The method according to claim 25, wherein the data collector is positioned on a robotic device, said method further comprising:

programming the robotic device with the locations of the plurality of sensor devices and a routing algorithm, wherein the routing algorithm is configured to determine a route for the
5 robotic device to follow in traversing the room.

27. The method according to claim 26, wherein the step of programming the robotic device comprises interfacing the robotic device with a computer system configured to provide instructions to the robotic device.

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28. The method according to claim 26, further comprising:

maneuvering the robotic device to a download location having an interface mechanism according to the routing algorithm;

interfacing the robotic device with the interface mechanism, wherein the step of
15 transferring the stored at least one condition to the robotic device comprises transferring the stored at least one condition through the interface mechanism; and

storing the transferred at least one condition in the robotic device.

29. The method according to claim 28, further comprising:

20 interfacing the data collector with the upload location; and

uploading the stored at least one condition to the computer system.

30. The method according to claim 29, further comprising:

in the computer system, manipulating one or more cooling system components based

25 upon the detected at least one condition.

31. The method according to claim 29, further comprising:

maneuvering the robotic device to an upload location, said upload location enabling communications with the computer system.

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32. The method according to claim 28, further comprising:
in the robotic device, manipulating one or more cooling system components based upon
the detected at least one condition.

5 33. A system for collecting data in a room, said system comprising:
means for positioning a plurality of means for detecting at least one condition in various
locations of the room;
means for storing the at least one condition detected by the means for detecting;
means for interfacing the means for storing with a data collector; and
10 means for transferring the stored at least one condition to the data collector.

34. The system according to claim 33, wherein the means for positioning comprises a
robotic device.

15 35. The system according to claim 33, further comprising:
a robotic device comprising:
means for determining the locations of the means for interfacing; and
means for maneuvering the robotic device to the locations of the means for
interfacing.

20 36. The system according to claim 35, further comprising:
means for controlling one or more cooling system components, wherein the means for
maneuvering is configured to maneuver the robotic device to an upload location of the means for
controlling.

25 37. The system according to claim 36, wherein the means for controlling comprises
means for interfacing with the robotic device and means for programming the robotic device.

30 38. The system according to claim 35, wherein the robotic device comprises means for
programming the means for detecting.

39. A computer readable storage medium on which is embedded one or more computer programs, said one or more computer programs implementing a method for collecting data in a room, said one or more computer programs comprising a set of instructions for:

5 detecting at least one condition with a plurality of sensor devices;
 storing the detected at least one condition in a data storage device;
 interfacing the data storage device with a data collector; and
 transferring the stored at least one condition to the data collector.

40. The computer readable storage medium according to claim 39, said one or more
10 computer programs further comprising a set of instructions for:

 programming the plurality of sensor devices to detect the at least one condition at predetermined periods of time.

41. The computer readable storage medium according to claim 40, said one or more
15 computer programs further comprising a set of instructions for:

 programming the plurality of sensor devices through an interface between the plurality of sensor devices and the data collector.

42. The computer readable storage medium according to claim 39, said one or more
20 computer programs further comprising a set of instructions for:

 tracking the locations of the plurality of sensor devices; and
 storing the locations of the plurality of sensor devices.

43. The computer readable storage medium according to claim 42, said one or more
25 computer programs further comprising a set of instructions for:

 programming a robotic device with the locations of the plurality of sensor devices and a routing algorithm, wherein the routing algorithm is configured to determine a route for the robotic device to follow in traversing the room.

44. The computer readable storage medium according to claim 43, said one or more computer programs further comprising a set of instructions for:

maneuvering the robotic device to a download location having an interface mechanism according to the routing algorithm;

5 interfacing the robotic device with the interface mechanism, wherein the step of transferring the stored at least one condition to the robotic device comprises transferring the stored at least one condition through the interface mechanism; and

storing the transferred at least one condition in the robotic device.

10 45. The computer readable storage medium according to claim 44, said one or more computer programs further comprising a set of instructions for:

maneuvering the robotic device to an upload location, said upload location enabling communications with the computer system;

15 46. The computer readable storage medium according to claim 44, said one or more computer programs further comprising a set of instructions for:

in the robotic device, manipulating one or more cooling system components based upon the detected at least one condition.

20 47. The computer readable storage medium according to claim 39, said one or more computer programs further comprising a set of instructions for:

interfacing the data collector with an upload location; and
uploading the stored at least one condition to a computer system.

25 48. The computer readable storage medium according to claim 47, said one or more computer programs further comprising a set of instructions for:

in the computer system, manipulating one or more cooling system components based upon the detected at least one condition.